IFW

520.42989X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: T. SHIROGANE, et al

Serial No.:   10/629,813

Filed: July 30, 2003

For: STORAGE SYSTEM

PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII

MS Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

August 5, 2004

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on July 30, 2003 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

3. Search

Applicants hereby submit that a pre-examination search, a copy of which is attached, has been made by a professional searcher.

The field of search covered Class 370, subclasses 242, 360 and 428, Class 707, subclass 100, Class 709, subclasses 203 and 213 and Class 714, subclasses 5, 20, 718 and 776. Additionally, a computer database search was conducted on the USPTO systems EAST and WEST.

The above subclasses represent areas deemed to contain subject matter of interest to one or more of the search features. Please note that relevant references may be classified outside of these areas. The integrity of the search is based on the records as presented to us by the United States Patent and Trademark Office (USPTO). No further integrity studies were performed.

4. Copy of References

A listing of all references found by the professional searcher is provided by a Form PTO-1449 and copies of the references and the Form PTO-1449 are submitted as part of an Information Disclosure Statement (IDS) filed on even date.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on even date that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on even date are **not** treated in detail herein.

a.   Detailed Discussion of the References

Biessener (U.S. Patent No. 6,701,456) shows a computer system and method for maintaining an audit record for data restoration. It further shows an instantaneous storage restoration system includes a host device, a connection point and a storage with connection point through iSCSI.

Sonoda et al (U.S. Patent Application No. 2003/0105767) shows a storage system and control method. It further shows a device operation for file system restoration by management file server.

Bushmitch et al (U.S. Patent Application Publication No. 2003/0182610) shows an error resilient coding, storage, and transmission of digital multimedia data. It further shows packets that can be transmitted over a transmission channel or that may be stored in a storage element for later use, with the packetization being orthogonal to FEC coding, also having the recovery of lost packets as well as correction of errors readily accomplished.

Kim et al (U.S. Patent Application Publication No. 2003/0226092) shows a method for transmitting and receiving variable length packets based on forward error correct (FEC) coding. It further shows a method for receiving variable length packets on the basis of the FEC coding, having a storage device which has a predetermined storage length, and performing FEC decoding to restore data packets from received extension packet.

Merritt et al (U.S. Patent Application Publication No. 2004/0098394) shows a localized intelligent data management for a storage system. It further shows that using technologies, such as iSCSI and local storage, remote backup can be seamlessly installed and enhance customer's disaster recovery capabilities.

b.   Distinctions Between the References and the Claims

The present invention as recited in the claims is not taught or suggested by any of the above noted references whether taken individually or in combination with each other or in combination with any of the other references now of record.

The present invention as now recited in the claims is directed to a communication method that is capable of restoring transmitted data in a data transmission through a network even if packet of the data are lost, an information processing apparatus, repeater and storage system each conforming to the ISCSI protocol adopting the Forward Error Correction (FEC) technique, and an information processing apparatus, repeater and storage system each being capable of transmitting data by changing the status of an FEC process and redundancy of a data transmission between ISCSI layers in accordance with destination of the data transmission.

The above described features of the present invention, particularly the provision of a communication method, information processing apparatus, repeater and storage apparatus each conforming to the ISCSI protocol using the FEC technique and transmitting data by changing the status of an FEC process and redundancy of a data transmission between ISCSI layer in accordance with the destination of the data transmission are not taught or suggested by any of the references of record whether taken individually or in combination with each other.

6.   Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

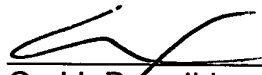[X]   the Credit Card Payment Form (attached) for $130.00.

[   ]   charging Account _____ the sum of $130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (520.42989X00).

Respectfully submitted,

Antonelli, Terry, Stout & Kraus, LLP

Carl I. Brundidge
Registration No. 29,621

CIB/jdc
Enclosures

-5-

K&A

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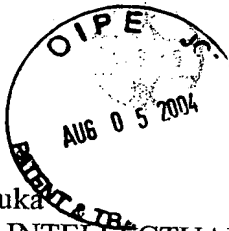Usha T. Shrestha, M.S., M.I.P.
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June 15, 2004

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> RE: Petition-to-make-Special Search
> For: **STORAGE SYSTEM**
> Your Ref. No.: 310201172US01
> <u>Our Ref. No.: HIT 1074</u>

Dear Mr. Otsuka:

    We have completed the petition-to-make-special search at the U.S. Patent and Trademark Office regarding the above-identified invention. The field of search covered Class 370, subclasses 242, 360 and 428; Class 707, subclass 100; Class 709, subclasses 203 and 213 and Class 714, subclasses 5, 20, 718 and 776. Additionally, a computer database search was conducted on the USPTO systems EAST and WEST. Examiner Robert Wilson in Class 370 (Art Unit 2661) was consulted in confirming the field of search.

    The search was directed towards a storage system. In particular the search was directed towards communication method that is capable of restoring transmitted data in a data transmission through a network even if packet of the data are lost, storage apparatus conforming to the ISCSI protocol adopting the FEC technique, a storage system that is capable of transmitting data by changing the status of an FEC process and redundancy of a data transmission between ISCSI layers in accordance with destination of the data transmission, as further claimed and described in the disclosure and U.S. Published Patent Application Number 2004/0095950. Note we limited our search to U.S. patents having a filing date and foreign patents and literature having a publication date prior to July 30, 2003.

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Please note the enclosed documents listed in numerical order for convenience:

U.S. Patent Number	Inventor(s)
5,337,414	Hashemi et al.
5,450,548	Matsushima
5,487,160	Bemis
5,838,891	Mizuno et al.
6,009,535	Halligan et al.
6,032,180	Nishikwa
6,237,052	Stolowitz
6,606,690	Padovano
6,701,456	Biessener.

Published Patent Application	Inventor(s)
2002/0112134	Ohran et al.
2003/0097607	Bessire.
2003/0105767	Sonoda et al.
2003/0105921	Tomita
2003/0126522	English et al.
2003/0177174	Allen et al.
2003/0182610	Bushmitch et al.
2003/0226092	Kim et al.
2004/0010612	Pandaya
2004/0049553	Iwamura et al.
2004/0090899	Gladney et al.
2004/0098394	Merritt et al.

Foreign Patent Number	Inventor(s)
JP200186153	Futaki
JP04233025	Bond

Brief Description Of The Documents:

U.S. Patent Number 6,701,456 shows a computer system and method for maintaining an audit record for data restoration. It further shows an instantaneous storage restoration system includes a host device, a connection point and a storage with connection point through iSCSI.

U.S. Patent Application Publication Number 2003/0105767 shows a storage system and control method. It further shows a device operation for file system restoration by management file serve.

U.S. Patent Application Publication Number 2003/0182610 shows an error resilient coding, storage, and transmission of digital multimedia data. It further shows packets that can be transmitted over a transmission channel or that may be stored in a storage element for later use, with the packetization being orthogonal to FEC coding, also having the recovery of lost packets as well as correction of errors readily accomplished.

U.S. Patent Application Publication Number 2003/0226092 shows a method for transmitting and receiving variable length packets based on forward error correction (FEC) coding. It further shows a method for receiving variable length packets on the basis of the FEC coding, having a storage device which has a predetermined storage length, and performing FEC decoding to restore data packets from received extension packet.

U.S. Patent Application Publication Number 2004/0098394 shows a localized intelligent data management for a storage system. It further shows that using technologies, such as iSCSI and local file storage, remote backup can be seamlessly installed and enhance customer's disaster recovery capabilities.

The remaining documents are of general interest for showing storage system.

While the above-noted Examiner was consulted and confirmed our opinion that the most relevant areas for this invention were reviewed, further searching may uncover additional patents. NOTE: The field of search included the most pertinent areas identified by the Examiner and our office as containing relevant patents.

Enclosed are copies of the cited documents and our invoice for services rendered and disbursements for this matter.

        As always, if you have any questions regarding this search, please do not
hesitate to call us at (703) 413-5000.

Very truly yours,

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TWK:RCP:css
Enclosure